9. (New) The residual current detection device of claim 8, wherein the circuitry comprises:

a voltage sensor provided for each of the resistive shunts for sensing a voltage developed across the resistive shunt and generating signals indicative of the current flowing through the resistive shunt; and

a processor for receiving the signals from the voltage sensors and processing the signals to detect the imbalance between the currents flowing through the resistive shunts.

10. (New) The residual current detection device of claim 9, wherein the voltage sensor comprises an analog-to-digital converter for producing digital signals as the signals supplied to the processor.

11. (New) The residual current detection device of claim 10, further comprising an isolation barrier through which the analog-to-digital converter is connected to the processor.

12. (New) The residual current detection device of claim 10, wherein the resistive shunt comprises a composite strip having conductive portions at its ends and a resistive portion in the middle interconnecting the conductive portions.

13. (New) The residual current detection device of claim 10, wherein the analog-to-digital converter comprises a delta-sigma modulator for producing as the digital signals a high-frequency one-bit digital data stream.

14. (New) The residual current detection device of claim 13, further comprising a decimation filter for converting the high-frequency one-bit digital data stream to a lower frequency multi-bit digital data stream to be processed by the processor.

15. (New) The residual current detection device of claim 10, wherein the analog-to-digital converter is an integrated circuit mounted on a corresponding one of the resistive shunts.

16. (New) The residual current detection device of claim 12, wherein the conductive portions are comprised of copper and the resistive portion is comprised of manganin.

17. (New) The residual current detection device of claim 16, wherein the integrated circuit further comprises a terminal connected to a voltage reference source and a second converter for providing a digital signal stream dependent on a voltage at one of the conductive portions of the associated resistive shunt.

18. (New) The residual current detection device of claim 8, further comprising means for measuring power consumption by the load.

19. (New) The residual current detection device of claim 8, further comprising an actuator for performing the function of a conventional circuit breaker.

20. (New) The residual current detection device of claim 9, further comprising means for measuring power consumption by the load.

21. (New) The residual current detection device of claim 9, further comprising an actuator for performing the function of a conventional circuit breaker.

22. (New) A method of detecting current imbalance in a residual current detection device between a plurality of lines through which currents flow to and from a load, said method comprising the steps of:

placing a resistive shunt in series with each of the lines;

measuring the current flowing through each resistive shunt; and

detecting an imbalance between the currents flowing through the resistive shunts.

23. (New) The method of claim 22, wherein the measuring step comprises sensing voltages developed across the resistive shunts and generating therefrom signals indicative of the currents flowing through the resistive shunts, and the detecting step comprises processing the signals to determine the imbalance between the currents flowing through the resistive shunts.

24. (New) The method of claim 23, wherein the signals are digital signals produced by analog-to-digital conversion of said voltages developed across each of the resistive shunts.

25. (New) The method of claim 24, wherein the analog-to-digital conversion is performed by an integrated circuit mounted on a corresponding one of the resistive shunts.

26. (New) The method of claim 25, further comprising generating a digital signal stream dependent on a voltage on one end of the resistive shunt.

27. (New) The method of claim 24, wherein the signals are a high-frequency one-bit digital data stream produced by a delta-sigma modulator, further comprising the step of converting the high-frequency one-bit digital data stream into a lower frequency multi-bit digital data stream to be processed to determine the imbalance between the currents flowing through the resistive shunts.